

Coal thickness from Mine Services
Inc.

NW SW 14-6-32W

3430 S + 2751 W NE 15

S elev 621.

357 ft to 32" coal

381 S + 136 E of about

635.

365 ft to 43" coal

2264 W 241 S of NE C 8

5N-32W

S. elev 561'

1386' to no coal

1944 S 880 W NE C 17-4N-32W

S elev 671 ft

553' to 3.2' coal

1283 S 1322 W SW C 19-4-32

elev 610 ft

467 - 3.6' coal

900 E 450 N SW 1/4 Lot 2 Sec 30 6N 30 W
elev 666
598' to 2.9' coal

459 S 44 E NW 1/4 NWNE 30-6-31
elev 630
502 ft - 2.8' coal

page 1
May 17, 1961

Halley & Mercwether

Sugarloaf Mountain Section
Sec. 10, T6N, R27E, Oklahoma
starts in McAlester formation

- 2254
3.0' siltst., H. to md. gy., v. f. mica.,
irreg. bdd., bds up to 1/4"
- 2264
4.0' ss., H. to md. gy., v. f. gr., v. silt., f. mica.
irreg. bdd., bds up to 6", ~~at~~ bottom
contact gradational.
- 2257
3.0' siltst., md. gy., f. mica., argill., irreg.
bds up to 2"
- 2254
10.0' Sh., dk. gy., poorly exposed, abund.
plant fossils, has coaly zone
3' from base, plant fossils in
lower 4' only
- 2264
15.0' Sh., as below, poorly exposed
- 2259
235.0' We came up 40' at an average
dip of 8° & through 1400' horizontally
Covered
- 1994
6.0' siltst., md. gy., v. f. mica., irreg. bdd., bds.
up to 1/2", ripple marked,
- 1988
8.0' ss., md. gy., v. f. gr., v. silt., f. mica., irreg. bdd.,
cross laminated bds from 1-8" well-cemented,
ripple marks indicate current from N80E,

Sugarloaf Mountain Section
page 2

1980

206.0

Covered

1774

190.0'

Sh., dk. gy. to gy. bl., bddg. up to $\frac{1}{8}$ "

1584 8.0'

ss. md. gy., v. f. gr., v. stly., f. mica., irreg. bdd., bds up to 2"; ripple-marked

1586 8.0'

Shst., md. gy., f. mica., irreg. bdd., bds up to 1", abund. borings, lower contact gradational

1588

150.0'

Sh., dk. gy., v. f. mica., bddg. up to $\frac{1}{4}$ ", sh. stly. in lower 4' 15" from base. 1' zone of md. gy. shst. v. f. mica., bds. up to $\frac{1}{2}$ " at 70" from base is 3" ironstone band, dk. gy.

1485

8.0'

Shst., md. to dk. gy., v. f. mica., irreg. bds., bds up to $\frac{1}{4}$ "

1410

85.0'

Sh., dk. gy., v. f. mica., bddg. up to $\frac{1}{8}$ "
Top of unit is top of McAlister fm.

12.0'

1326

ss., H. gy., v. f. to f. gr., sh. gy., f. mica., bddg. from $\frac{1}{4}$ " to 6', convolute bdd. in part, cross bdd. in part, sh. pebbles up to $\frac{1}{2}$ " in diam, lower contact is sharp

Sugarloaf Mountain Section
page 3

- 1313
4.0' Interbd. dk. gy. to gy. bl. sh., beds up to 1/4", units up to 2', + md. gy., f. gr., well-cemented ss., ripple marks show current from SW, ss. in beds from 1-8"; unit is prob. 70% ss., ss. is well-cemented
- 1309
2 H.I.'s sh., dk. gy., mica., slty., bddg. up to 1/4"
- 1297
6.0' slt. sh., md. gy., v. mica., well-cemented, irreg. bdd., bds. up to 1/4"
- 1296
4 H.I.'s ss., md. gy., v. gr., v. slty., v. mica., well cemented, irreg. bdd., bds up to 1 ft., convolute bdd. in part, bottom contact is sharp, sed. flow features more common in upper 12', unit more slty + more argillaceous in upper 12'
- 1248
105.0' sh., md. to dk. gy., sl. slty., mica.
- 1168
55' Covered Interval, upper 20' may contain ss.
- 1108
115' Poorly exposed sh.
- 998
6.0' slt. sh., dk. gn. gy., argill., v. mica., irreg. bds., bds up to 1"

Sugarloaf Mountain Section
page 4

907 1.0'	sh., ind. gy., slty., v. mica.
906 2.0'	siltst., as below
904 4.0'	sh., as below
900 8.0'	Interbed. siltst. + sh. as below, sh. units up to 1', siltst. units up to 8", 40% siltst.
912 7.0'	ss., ind. gy., v. gr., v. slty., argill., f. mica., irreg. bds. up to 4" thick
905 95.0'	Covered, lower 40' has poorly exp. dk. gy. to gy. bl. sh.
870 4.0'	ss., gn. gy., v. gr., almost siltst., v. slty., argill., f. mica., contorted by sediment flow
886 2.0'	siltst. gn. gy., argill., f. mica.,
864 12.0'	ss., th. gn. gy., v. gr., almost siltst., slty., v. slty., argill., badly contorted by sed. flow, bedding 2-3'
857 150'	Covered, poorly exposed dk. gy. sh. in part

Sugarloaf Mountain Section
page 5

707	8.0'	sh, dk. gy. to gy. bl.
694	6.0'	SS, H. gy., v. f. gr., v. slty., f. mica., irreg. bdd., up to 8" bds., foreset bddg. indicates currents from N30E
688	10.0'	SS, H. gy., v. f. gr., slty., f. mica., well-cemented, convolute bdd. in part. bds from 1" to 4" thick
698	3.0'	sh, ind. gy., argill., bddg. up to 1/2", irreg. bdd.
695	2.0'	SS, br. gy., v. f. gr., slty., ripple marked skind. borings on bottoms of bds., reg. bdd., bds. from 2" to 2"
667	3.0'	sh, dk. gy. to gy. bl., bddg. up to 1/2", 2" coaly zone at top
664	27.0'	Poorly exposed ind. to sh. gy. sh.
692	8.0'	SS, dk. gn. gy., v. f. gr., v. slty., argill., v. f. mica., irreg. bdd., bds up to 2"
629	5.0'	sh, ind. gy., f. mica., irreg. bdd., up to 1"
624	9.0'	sh, dk. gn. gy., sh. slty., nondescript bddg.

Sugarloaf Mountain Section
page 6

626	3.0'	ss, md. gy., vit. gr., almost silt. size, v. slty., vit. mica., irreg. bds., in bds up to 6"
612	7.0'	slt. st., md. to dk. gy., argill., irreg. bdd., bds up to 1/4"
605	4 HI's	st., md. to dk. gy., bds up to 1/8", ironscale concret. up to 3" in diam.,
582	3S'	st., dk. gy., poorly exposed
577	4 HI's	claystone, gn. br., nondescript. bddg.
524	3.0'	ss, dk. gray, vit. gr., almost silt. v. slty., v. f. mica., irreg. bds. up to 2" thick.
524	2.0'	Clay st., dk. gn. br., nondescript. bddg.
514	1.0'	ss, md. gy., vit. gr., v. slty., argill., f. mica., one bed
518	160'	Poorly exposed, md. to dk. gy. st. —
368	4' SHst,	lt. gy., vit. mica., irreg. bdd., bds. up to 1/4"
354	3.0'	ss, lt. gy., vit. gr., almost silt. size, v. slty., well-cemented, in two beds one 7', one 6'.

Sugarloaf Mountain Section
page 7

344	100.0'	Covered,
244	6.0'	SS., v.f. to f. gr., lt. gy., well-cemented, abund. v.f. chert, cross. bdd., all one bed.
236	9.0'	Interbed. gn. br. siltst., + gn. br., v.f. gr. ss., v. silty, v.f. mica, argill., ss. is irreg. bdd. in bds up to 2', siltst. is irreg. bdd. in bds up to 2". Unit is about 60% ss.
226	9.0'	SS., lt. gy., v.f. gr., v. silty., well-cemented, f. mica., one bed.
207	3.0'	siltst., dk. gn. gy., f. mica., v.f. sandy., irreg. bds in beds up to 1'
214	8.0'	sh. gn. gy., nondescript, bddg.,
206	30.0'	Covered
196	3.0'	SS., dk. gn. gy., v.f. gr., almost siltst., v. silty., v.f. mica., one bed
173	25.0'	Covered
148	10.0'	SS., br. gy., v.f. gr., almost siltst., v. silty., f. mica., irreg. bdd., bds to 4"

Sugarloaf Mountain Section
page 8

- 138 35.0' Covered,
- 103 14.0' ss, H. gy, v. f. gr, almost siltst, v. silty.
v. mica., well cemented, poorly
exposed, bds up to 1'
- 69 65.0' Covered, interval
- 24 4.0' ss, v. f. gy, v. f. to md. gr., quartzose,
Boggy?
- 20 20.0' Covered, ss. as below, to the
triangulation station.

End of Section

page 1

May 16, 1961

Haley + Mercowether

East Midland Peak Section

Thickness starts in McAlester

531.0
10.0' siltst., lt. to md. gy., even bdd., bds.
from 1/16 to 1/4" thick.

521.0
6.0' ss., v. lt. gy., v. lt. gr., silt., well-cemented,
fr. chert frags., rests upon siltst.
w/ a sharp contact - bottom contact
flat, upper contact undulating

515.0
7.0' siltst., lt. to md. gy., irreg. bdd.,
laminated, fr. mica, bds. from 1/16
to 1/4"

508.0
5 H.I.'s
+ 3' Sh., dk. gy., v. mica.

476.2
5 H.I.'s Covered

449.4
12.0' Sh., as below, Ironstone band from
0 - 2" thick 6' from base

435.4
2 H.I.'s Covered

423.9
4 H.I.'s Sh., as below

401.9
2 H.I.'s Covered, prob. dk. gy. sh. ^{ss} below

4.0
396.4 DK. gy. sh. as below

16.5'
386.4 siltst., lt. to md. gy., irreg. bdd., bds
1/16 - 1/4"

page 2

East Midland Peak section

369.9 5.0'	Sh., dk. gy., to gy. bl.
364.9 8 H.I.'s	Covered
318.9 22 H.I.'s	Sh., dk. gy., v.f. mica.
92.4 5 H.I.'s	Covered, prob. dk. gy. sh.
163.6 9 H.I.'s	Sh., as below
111.8 3.0'	SS, lt. to md. gy., v.f. gr., v. slty., bddg. reworked by borings.
108.8 2.0'	Sh. slt., md. gy., irreg. bdd., ripple-marked beds from 1/4 to 1/2"
106.8 8.2'	Sh., dk. gy., beds up to 1/4"
3.0' 98.6	SS, lt. gy., v.f. gr., irreg. bdd., bds. from 1/4" to 3", ripple-marked ripple marks show current from N70E, slty.
95.6 3 H.I.'s + 3'	Sh., dk. gy., v.f. mica., bds. up to 1/4", widely scatt. ironstone bands up to 1/2"
75.6 6.0'	Sh. slt., lt. to md. gy. v.f. sandy, f. mica.,
69.6 3.0'	Sh., dk. gy., v.f. mica., sl. slty.

page 3

East Midland Peak section

3.0' 66.6	Claystone, md. gy., v. mica., non-descript bedding,
2.0' 63.6	Slt sh., md. gy., v. mica., even bdd., bddg. from $\frac{1}{8}$ - $\frac{1}{2}$ "
2.0' 61.6	Sh., dk. gy. to gy. bl.,
0.7' 59.6	Slt sh., dk. gy.,
2.0' 59.9	Sh., dk. gy. to gy. bl., bddg less than $\frac{1}{16}$ inch., abund. plant fossils contains coal beds (lenses) from $\frac{1}{4}$ to 2" thick
2.0' 56.9	Sh., dk. gy., bddg. up to $\frac{1}{4}$ " top of sh. is top of the McAllester fm.
30.9' 54.9	ss. lt. to md. gy., v. qv., v. sly., v. argillaceous, even bedded, reefs on sh. with sharp contact. Occasional thin stringers of coal in the lower 6" of the ss. - Bottom cast (groove cast) indicates current azimuth N50E. At 25.9' we come to a 5' bed of this ss. severely contacted by sed. flow

page 4

East Midland Peak Section

24.0

24

ss., lt. gy., v. dr. gr., v. silty, v. argill., irreg. to reg. bdd., abund. sed. flow features, bddg. 1/2 to 6'

End of Section

May 16, 1961

Haley - Merewether

H.I. =
5' 9"

South Midland Peak Section
Sec. 36, T.5N., R. 32W.
Starts: basal Savanna

Thickness

Lithology

626A
30' + ?

sh., dk. gy., v. f. mica., sh. slty.

796.8
15.6'

ss., lt. olive-gy., v. f. to f. gr., slty.,
f. mica., well-cemented, ripple-
marked beds from 2" - 3', even bdd.,
base of unit not exposed - this is
basal ss unit of the Savanna
Has frags. of *Lepidodendron* up to
2" in diam.

781.2
6.7'

ss., lt. olive gy., v. f. gr., v. slty.,
ripple-marked, sh. pebbles up to
1/2" borings on bottoms of beds,
irreg. bdd., bds. from 1/2" to 2',
At 4.7' there is a 6" bd. of dk. gy.
sltst.

774.5
5.7'

sh., md. to dk. gy., with stringers of
md. gy. sltst. up to 1/2" thick.
Unit is prob. 10% sltst.

768.8

3 H.I.'s

Covered

5.0 ^{752.0}

sltst., lt. to md. gy., v. argill., even
bdd., bds. up to 2", f. mica.

747.0
3.3'

ss., md. gy., v. f. gr., v. slty., argill., even
bdd. bds. up to 6" ripple marks on
top of bd. show current from N60E

South Midland Peak Section
page 2

743.7
4.7'

ss., md. gy., v. slty., argill., v. mica., severely contorted by sediment flow, azimuth of sediment flow is N-S; Direction of flow may be South. Thin stringers of dk. gy. sh. up to 1/2" in this unit.

739.0
7.5'

ss., md. gy., v. f. gr., v. slty., irreg. bdd., bds. up to 4", abund. load casts, some sed. flow features, ripple marks, ripple marks show current from N 40E

731.5
16.0'

ss., md. gy., v. f. gr., v. slty., argill., very even bedded, however sed. flow features at some horizons, bddg. flow features + load casts become more scarce in upper 6'

Up 290'
by altimeter
then back
down to get
more section
in creek

715.5

161.4 covered

290.0
- 128.6
161.4

6.0'
554.1

SHst. lt. to md. gy., v. mica., irreg. bdd., bds. 1/4-6", bddg. nearly destroyed by borings,

South Midland Peak Section
page 3

- 5.0' 548.1 ss., lt. to md. gy., v.f. to f. gr., scatt, rdd. md. grains, widely scatt. c. grs., f. mica., ss. has been completely reworked by barings - contact with underlying sltst. is gradational. Contact with overlying sh. is sharp.
- 4 H.I.'s 543.1 sh., dk. gy., v.f. mica., sl. slty.
- 1.0' 520.1 ss., md. gy., v.f. gr., v. slty., irreg. bds from 1/2 to 4", ripple-marked.
- 9 H.I.'s 519.11 sh., dk. gy., sl. slty., f. mica., 1st. H.I. poorly exposed., bddy. up to 1/8" thick
- 3 H.I.'s 467.3 sh., dk. gy., weathers in blocks up to 5" thick, thin stringers of fine grained ss. up to 1/16" thick, very widely scatt. stringers. Plant fossils, widely scatt., mostly frags. of stems.
- 2 H.I.'s 450.1 Covered - up to the 290' spot mentioned earlier
- 80' 438.0 Covered

South Midland Peak section
page 4

<p>7 H.I.'s + 3' 358.6</p>	<p>Sh., dk. gy., v. f. mica., more a mudstone than a sh.,</p>
<p>1.4' 315.4</p>	<p>Sltst., md. gy., argill., v. f. mica., irreg. bdd., bds. up to 1/2"</p>
<p>6.0' 314.0</p>	<p>Sh., dk. gy. to gy. bl., v. f. mica., sl. slty.; v. fossiliferous fern pinnales + fronds, lycopods + leaves + stems, Has 6" slty. zone 4' from the base</p>
<p>308.0 2 H.I.'s</p>	<p>Sh., dk. gy., v. f. mica., sl. slty., plant fossils in the lower 1 ft. Widely scatt. ironstone concretions in upper 4'</p>
<p>296.5 7 H.I.'s</p>	<p>Covered, measured across slump block,</p>
<p>2.0' 256.3</p>	<p>Sltst., md. gy., v. f. mica., irreg. bds. up to 2"</p>
<p>5.0' 254.3</p>	<p>SS., lt. to md. gy., v. f. to f. gr., v. slty., irreg. bds. up to 6", cross bdd. ripple marked</p>
<p>5 H.I.'s 249.3</p>	<p>Sh., dk. gy. to gy. bl., abund. plant fossils, fern pinnales, lycopod leaves, coalified tree trunk 7" wide, 3' long, coal is 3/4" thick, abund. coalified plant frags.</p>

South Midland Peak Section
page 5

- 220.5
0.7' some up to 1" thick, abund. iron-stone concre. in upper 12'
- 219.8
5H.I.'s ss, md. gy., f. gr., f. mica., irreg. bdd., in bds. up to 2"
- 9.0
191.0 sh., md. to dk. gy., slty., f. mica., widely scat. plant frags.
- 9.0
191.0 claystone, H. gn. br., nondescript, bddg., sltst., H. gn. br., nondescript, bddg., v. argill., f. mica.
- 6.0'
192.0 sh., H. gn. br. to dk. gy., nondescript bddg.; abund. plant frags. in dk. gy. sh., prob. 40% dk. gy. sh.
- 5.0'
196.0 ss, H. gn. gy., v. f. gr., v. slty., argill., irreg. bdd., in bds. up to 12", stringers of H. gn. gy. sltst. up to 3". Unit prob. 30% sltst.
- 12.0'
191.0 ss, H. gy., v. f. gr., v. slty., argill., conrolute bdd., cross bdd., bds up to 4'. Sigilaria tree trunks up to 6" in diam. Trunks range from vertical to horizontal with most falling toward North

South Midland Peak Section
page 6

155.0
159 sh., dk. gy. ~~to~~ v. f. mica, bds.
up to $\frac{1}{4}$ "

to 7.0'
ss. v. lt. gy. v. f. to f. gr., v. mica,
v. f. to f. frags. of chert,
ripple-marked, dk. gy. sh. pebbles
up to $\frac{1}{2}$ " in diam.

End of Section

Nov. 14, 1961

B.R. Haley
T.A. HendricksSec. 31, T. 9 N. R. 27 E, Okla. to sec. 6,
T. 8 N., R. 27 E. On State Highway 112

Base of section — upward. Start on old rd. to East

0	Unit	①. Interbedded siltstone, sh. and very silty v. f. ss. — Ss. in beds up to 2" — siltst. in beds up to 8"; beds up to 1/2". — Sh. in units up to 4", beds 1/4" — Unit approx. 20% ss., 60% silt, 20% sh. — badly withrd. — No smooth bedding.
Cumulative	thickness	
30'	30'	2554
70'	40'	2524
		Move to cut on new road — E. side of cut.
125'	55'	③ - Interbedded siltst. light to med gry. irreg bdd in beds up to 1" very finely sdy in lower 8', dk gry v. finely micac v. silty sh. — Sh in units up to 1" in beds, up to 1/4". Some siltst. layers have trail-marking on bottom and are semi-nodular in places. — About 70% siltst.
		2484
		④ - Siltstn. lt. to med gry. v. finely micac. ^{irreg. laminated in} beds up to 3", has beds of dk gry sh up to 1" thick in lower 17' — These sh. is in laminae above this. Sh. lam. contain abundant poorly preserved plant fossils including pinnules, sigillaria leaves, and macerated woody frags. — Siltstn is irreg bdd and irreg. lamin. and shows sed. flow in a few beds. — worm? boring to and ⊥ to bedding. — Upper 12' sh. is approx 20% of unit.
169'	44'	2429

P. 2.

Mar. 14, 1961

B. R. Hawley
T. Hendricks

Okl. Highway 112 section, Sec 31-9-27.

- | | |
|--|--|
| <p>Bed
thickness</p> <p>Cum. 1</p> <p>186' 17'</p> <p>2385</p> <p>246' 60'</p> <p>2568</p> <p>309' 63'</p> <p>2308</p> <p>336' 27'</p> <p>2245</p> | <p>⑤ Interbedd. ss. lgt. gry v. fn. grd. v. slty x-lam, trails on bot. surf. bds up to 4" and siltstn. lt. to med. gry. bds up to 1/2" but most less than 1/4" x-lam. many borings, - drk. gry. sh. lam. up to 1/8" Unit approx. 20% ss. - lamination irreg.</p> <p>⑥ Siltstn. med to lt. gry. bds up to 1/2" where not reworked by borings, some x-lam, bedding in lower 7' almost destroyed by borings, most of which are sub-parallel to bedding. - fine-grains absent in borings. - drk. gry. micac. sh. lam. throughout except where destroyed by reworking.</p> <p>⑦ Siltstn. & sh. as below without abundant borings, x-lam, widely scattered plant foss. Coalified in 6' zone 20' above base, - 13' zone 33' above base is argillaceous. - bds up to 2" but nearly all less than 1/4", irreg. lam.</p> <p>⑧ Siltstn. lgt. to med. gry in bds up to 2" - irreg. lam finer than 1/4" most less than 1/8" - partings are drk. carb with abundant coarse mica - borings com. Several ss bds up to 2" thick in middle part are finely sdy and x-lam.</p> <p>⑨ - Interbedd ss. v. lt. to lt. gry, v. slty to v. f. grd. in poorly ripple-mk'd beds up to 6". X-bdd indicates current from N. - top of beds have carb. ? film. - med. to drk gry siltstn. in beds to 2" - unit 70% ss.</p> |
|--|--|

B. R. Haley
TR Hendricks

Mar. 14 1961

336

Okl. Highway 112 section. Sec. 31/9/27
Unit 9 contd. -

Some ss. has borings. Lowermost ss. unit pinches
out to N. (opp. current), next unit thickens &
thins to N., other units persist. 5" bd v. lt.

Cum Bed.

360' 24'

gry. ss with abun. iron stn peb. up to $\frac{1}{2} \times 1 \times 2$ "
about 7' above base - another bd 15' above base

2218

367' 7'

(10) Ss. v. lt. gry, v. fn-grd, slty, finely micac, irreg.
lam. ^{up to 1/2"} abndt borings, widely scat. carb. sh
partings with med. to coarse mica - bedding reg.
1" at base increasing to 1'6" at top.

2194

375' 8'

2187

(11) Ss. lt. gry, v. fn-grd, slty to v. slty, ^{ripple-marked} irreg.
lam. - x-bdding shows current from N10°W. - sediment
slip 5' above base moved southward. - this was
restricted to 1 bed 8" thick. A x-bdd pebble-
bearing zone 2' above base thickens to S.
from 2' to 2'6" in 20'. Lam up to $\frac{1}{4}$ " ~~with~~
of dk. gry silty micac. sh. - Bedding grades
upward from 7" to $\frac{1}{2}$ " in reg. bds.

392' 17'

2179

(12) Ss. lt. gry, v. fn-grd, v. slty, finely micac,
irreg. lam., ripple-mkd, bds up 11", regular bds,
7' above base is a 7" zone of drk. gry sh.
laminations and a 6" zone at 11". X-bds show
current from No

415' 23'

2162

(13) Ss. v. lt. gry, v. fine-grd, v. slty, v. micac, ripple-
mkd, abun. borings, irreg. lam., bds $\frac{1}{4}$ " to 6". Lams.
consist of dk. gry. micac slty sh. up to $\frac{1}{8}$ " - sh lams
about 10% of unit.

P. 4

B. R. Haley

TA Hendricks

Mar. 14, 1961

415' Okla. Highway 112 Section. Sec 31-9-27

(14) Ss. v. lgt. gry, v. f-grd, v. slty, finely micac, abundant borings with bedding destroyed at places, req. bdd in bds up to 2' in lower part, thinner above, some ripple mks dk gry sh. lam become com toward top

Cum unit

436' 21

2139

(15) Sltstn. light to med. gry, med. m. ^{up to 3" bds} micac, irreg lam. of dk. gry carb micac. sh less than 1/8" thick. abund. borings, some bedding flow features, poorly rppld-mkd, unit becomes v. finely sdy in upper 10'.

468 32'

2118

(16) Ss. lgt gry, v. fine-grd, v. slty, finely micac, req. bds up to 2', dk. gry sh partings up to 1/4", borings com., some bedding flow feat, poorly rppld - 1' bd cont. sh. pebbles up to 1/2" in diam. 17' above base - another 2' bed 28' above ^{and at top} base. - Dk. gry sh. prtngs com. in upper 8'

511' 43'

2086

Section moves to old road west of new Highway

(17) Ss. v. f-grd, v. slty, finely micac., weathered to olive gry req bds up to 6" thick, poorly rppld.

528' 17'

2043

535' 7'

2026

(18) Sh. slty, whrd to brownish gry

(19) Ss. lgt. gry, v. slty, finely micac., rppld in lower 10', bedding 1/4" to 8", borings,

550' 15'

2019

580' 30'

2004

(20) Sh. dk gry., v. poorly exp. v. finely micac. Strike S75°W Dip 44°.

P. 5

BR Haley

TA Hendricks

Mar. 14, 1961

580 Cum.	Unit	Okla. Hwy 112 Section. sec 31-9-27
905'	328' 1994	(21) Covered. Cross Hwy to East cut
927'	22' 1649	(22) Sh. drk. gry, v. f. micac. fissility up to 1/8" weathers to brownish splinters 1" ± long.
951'	24' 1627	(23) Siltstn. med dk gry, argillaceous, v. finely micac beds up to 1/4"
1061'	110' 1603	(24) Siltstn. lgt gry v. finely sdy, irreg. lam, abnd borings, bds from 1/4" to 2', widely scat. sh. peb. up to 1/4", some flow features, - dk gry sh. lam. up to 1/8"
1067'	6' 1493	(25) Ss. v. lgt. gry., v. f. - grd, v. slty, v. finely micac, well cemented, reg. bds up to 1'
1069'	2' 1487	(26) Ss. lgt gry, v. f. to fine-grd, slty, abundant fine chert, sh. peb. up to 1/2", irreg bdd 1" to 8"
1082'	73' 1485	(27) Interbdd Ss. lgt to med. gry, v. slty, v. f. - grd, ^{finely micac} v. fine to fine chert, well cem. bed: 1/2" to 2" - siltstn. med. gry, irreg. bedded up to 1" - sh. drk gry slty, finely micac in units up to 2" in bed up to 1". Unit 40% ss - 30 - 30 siltstn + sh.
1083'	1' 1472	(28) Ss. med. gry, f. to med. grd, abun. med chert frags, med. grtz well rdd, sh. peb. up to 1", irreg bdd in bds up to 2"

P.G.

B. R. Haley
TR Handrick

Core	Unit	Mur. 14, 1961
1083'	+	Oklahoma Highway 112 section Sec. 31-9-27
1108'	25'	(29) Sh. drk gry, v. slty, v.f. micac, bds up to $\frac{1}{4}$ " Dip. 36°
	1471	
1116	8'	(30) Ss. lgt. to med. gry. v.f. to f-grd, v. slty, v-finely micac., v.f. to fine chert, irreg bdd up to 4" - becomes f-grd at top
	1446	
1416'	300'	(31) Covered interval. Has a resistant bed about 300' above base that forms small ridge east of road.
	1438	(32) Ridge 1000' E of road - Sltstn, fine-grd, micac, irreg. laminated alternating with drk gry micac. Sh in beds less than 1" thick. Has 1' bd of ss fine-grd gry micac. at top.
1436'	26'	
	1138	
1556	120	(33) Covered interval.
	1118	
1584	28'	(34) Sh. dk gry, v-finely micac, beds up to $\frac{1}{8}$ " poorly exposed
	998	
		(35) Interbdd sh. dk gry, v.f. micac., slightly slty, beds up to $\frac{1}{4}$ " - sltstn light to med gry finely micac, irreg bdd up to 2" - Unit prob. 50% sltstn. - 2' above base ss. 6" fine to med withrd to olive gray abun. med chert. - New middle of unit similar ss 6" thick. Dip. 32°.
1640'	56'	
	970	
1677'	37'	(36) Ss. lgt gry v-f-grd, v. slty, v. finely micac. abun. fine to v.f. chert, ironstone peb. up to 1", irreg bdd up to 10".
	914	

P. 7

B. R. Haley

T. A. Hendricks

Mar. 14, 1961

Cum.
 1677'
 2157'
 2181'
 2195'
 2205'
 2247'
 2327'
 2333'
 2336'
 2340'
 2343'

Unit
 61'
 515'
 877'
 24'
 362'
 14'
 338'
 10'
 324'
 42'
 314'
 80'
 272'
 6'
 192'
 9'
 186'
 4'
 183'
 3'
 179'

Okl. Highway 112 section 31-9-27.
 (37) Covered interval. Sh. and siltstone exposed poorly in upper 75' appear to be structurally complicated.
 (38) Interbdd sh. + siltstn both weathered to olive gray Unit prob. 50% sh.
 (39) Ss. lgt grq, v.f. grd., v. slty, v. finely micac, irreg bds up to 4", fine chert frags.
 (40) Siltstn. lgt. to med gry, v. finely micac, irreg bds to 2".
 (41) Interbdd siltstn. weathered to brownish gry, v. finely micac, irreg bdd up to 1" - Ss. lgt to med gry, v. f.-grd, v. slty, abundant v.f. to fine chert, irreg bds up to 8" - Unit about 30% ss. Dip. 20°.
 (42) Covered interval.
 (43) Ss. lgt to med gry, v.f. to f-grd, v. slty, abund v.f. to fine chert, irreg bds up to 8", scat sh. pebb up to 1/2" in ~~upper~~ near top.
 (44) Sh. withrd to lgt gry.
 (45) Siltstn. withrd to v. lgt. gry
 (46) Ss. lgt to med gry, v. slty, v. f.-grd, f. to med micac, abun. v.f.-chert, bds irreg. up 6"

Cum.

Mar. 14, 1961

2343

Okla. Highw'y 112 section 31-9-27

2369' 26'

(47) sh. black, poorly exposed, very slightly micac.

176

2414' 45'

(48) Covered.

150

2468' 54'

(49) sh. drk gry. to grayish blk, v. slightly micac, bedding up to 1/8".

105

2479' 11'

(50) siltstn, lgt. to med gry, irreg bdd in bds up to 1/2", - interbdd sh. drk gry, slightly slty, units up to 1", bds up to 1/8" - About 60% siltstn.

51

2494' 15'

(51) Interbdd sh drk gry slty in bds up to 1/8", - Siltstn lgt gry, finely micac, bds up to 1/2", ss. lgt. gry. v. f. grd, irreg bds up to 6" - Unit 20% sh, 50% siltstn, 30% ss.

40

2519' 25'

(52) ss. lgt gry, v. slty, ^{to fine} v. f. grd, ripple-mrkd, scat. sh. peb. up to 1/2", ~~sh~~ bds indicate current from N15°W, irreg bds up to 8". Some bedding surfaces drk. carb. coated. Upper 10' f. grd and f. chert common, + top bds up to 1 1/2" Dip 15°

25

S. end of section. - 1.00 mi. updip to N. of Hartshorne coal. Dip of Hts ss 9°

3619' 1100'

Top of section about 1100' below Hts. coal.

Nov. 14, 1961

B. L. Haley
T. A. H. Dricks

Northwest well on Backbone
anticline is 0.1 mi. N. of
road 1.2 mi west of Coe's
corner Oklahoma